Making the function continuous

A discontinuity is removable if you can easily plug in the holes in its graph by redefining the function. When you can't easily plug in the holes because the gaps are bigger than a single point, you're dealing with nonremovable discontinuity. Jump and infinite/essential discontinuities are nonremovable, but point discontinuity is removable because you can easily patch the hole in the graph.

Let's take the function from the point discontinuity section.

$$f(x) = \frac{x^2 + 11x + 28}{x + 4}$$

If we add another piece to this function as follows, we "plug" the hole and the function becomes continuous.

$$f(x) = \begin{cases} \dfrac{x^2 + 11x + 28}{x + 4} & x \neq -4 \\ 3 & x = -4 \end{cases}$$

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